

Supplemental Preliminary Amendments 06/06/06

Amendments to the Claims

This listing of claims will replace the pending claims in the application.

Listing of Claims:

Claims 1 – 7 (cancelled).

Claim 8 (currently amended): An apparatus for separating at least one component of a gas mixture by pressure swing adsorption, comprising, ~~in a generally vertical vessel (1) comprising :~~

an upper dome (2); ~~at least one adsorbent mass (4) separating ;~~

a bottom end (3);

generally vertically extending walls extending from the bottom end (3) to the upper dome (2) thereby enclosing a space;

a first vertical chamber (5) ~~receiving~~ adapted and configured to receive the gas mixture to be separated, ~~from ;~~

a second vertical chamber (7) ~~collecting~~ adapted and configured to collect a separated gas mixture[.];

at least one adsorbent mass (4) separating the first and second vertical chambers;

a ballast (10);

a generally horizontal flexible wall (9) extending underneath the ballast;

a skin (11) extending underneath the upper dome (2) over the ballast (10) and resting upon peripheral portions of the wall (9), the wall (9) being pressed down against the an upper end of the adsorbent mass (4) by the weight of the ballast (10) and skin (11) pressing means (10, 11), wherein it comprises ;

a volume between the flexible wall (9) and the dome (2); and

means (12, 14) for controlling the an element in fluid communication with the volume and being adapted and configured to control a pressure in the volume between the flexible wall (9) and the dome (2).

Supplemental Preliminary Amendment 5/15/06

Claim 9 (currently amended): The apparatus of claim 8, wherein the volume ~~between the flexible wall (9) and the dome (2) communicates (12, 13) is in fluid~~ communication with one of said first and second chambers.

Claim 10 (cancelled)

Claim 11 (currently amended): The apparatus of claim 9, wherein ~~it the element~~ comprises a line (12) connecting said volume to the second chamber (7).

Claim 12 (currently amended): The apparatus of claim 9, wherein ~~it the element~~ comprises an aperture in the wall forming a passage (13) between said volume and the first chamber (5).

Claim 13 (currently amended): The apparatus of claim 8, wherein:
the adsorbent mass (4) is annular, ~~and ; and~~
the first (5) and second (7) chambers are concentric with respect to each other.

Claim 14 (currently amended): The apparatus of claim 8, ~~for separating components of air, wherein~~ the adsorbent ~~comprising~~ mass comprises at least one zeolite

Claim 15 (new): An apparatus for separating at least one component of a gas mixture by pressure swing adsorption, comprising:
an upper dome;
a bottom end;
generally vertically extending walls extending from the bottom end to the upper dome thereby enclosing a space;
a first vertical chamber adapted and configured to receive the gas mixture to be separated;
a second vertical chamber adapted and configured to collect a separated gas mixture;